

From the INTERNATIONAL BUREAU

PCT

**NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

(PCT Rule 72.2)

To:

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UEXKÜLL & STOLBERG**09. Dez. 2004**

T:

Date of mailing (day/month/year)
02 December 2004 (02.12.2004)

Applicant's or agent's file reference
P 62770

IMPORTANT NOTIFICATION

International application No.
PCT/EP2003/003639

International filing date (day/month/year)
08 April 2003 (08.04.2003)

Applicant

DARAMIC, INC. et al

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

AZ, CA, CH, CN, CO, GH, KG, KP, KR, MK, MZ, RU, TM

The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

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3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

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Translation

PATENT COOPERATION TREATY

PCT/EP2003/003639



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P 62770	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/003639	International filing date (day/month/year) 08 April 2003 (08.04.2003)	Priority date (day/month/year) 12 April 2002 (12.04.2002)
International Patent Classification (IPC) or national classification and IPC H01M 2/14		
Applicant DARAMIC, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>5</u> sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 08 October 2003 (08.10.2003)	Date of completion of this report 30 July 2004 (30.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/003639

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed☒ the description:

pages _____ 1-25 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☒ the claims:

pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1-18 _____, filed with the letter of _____ 20.02.04

☐ the drawings:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages _____☐ the claims, Nos. _____☐ the drawings, sheets/fig. _____5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/03639

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-18	YES
	Claims		NO
Inventive step (IS)	Claims	1-18	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

2. Citations and explanations

1. Prior art documents

- D1: US-A-5 246 798 (YAACOU B CLAUDIA M) 21 September 1993
(1993-09-21)
- D2: US-A-4 778 601 (YEN LARRY Y ET AL) 18 October 1988
(1988-10-18)
- D3: EP-A-0 618 629 (GRACE W R & CO) 5 October 1994
(1994-10-05).

2. Summary

The application discloses battery separators for lead-sulphuric acid accumulators based on ultrahigh-molecular polyolefins and an additive for improving oxidation stability, for example long-chain alcohols, alkoxylated fatty alcohols, polyacrylic acid, polymethacrylic acid, etc.

3. Novelty, PCT Article 33(2)

3.1 Document D1 discloses separators for lead-sulphuric acid accumulators based on ultrahigh-molecular polyethylene (column 3, lines 55 to 59) and a surface-active additive which reduces deposits. The additives mentioned are ethoxylated alcohols, ethoxylated fatty acids, amides or amines (column 2, lines 42 to 48; column 5, lines 4 to 8).

These surfactants can be introduced into the separator, the electrodes or the electrolyte (column 5, lines 22 to 56). In order to arrive at the claimed separators, a person skilled in the art must make a twofold selection: concerning the nature of the additive and the place inside the battery at which the additive must be introduced.

3.2 Document D2 discloses polyacrylic acid salts and polysulfonic acid salts as additives for polymer separators in order to attain a special pore size distribution (page 2, lines 3 to 9; column 3, lines 47 to 58). Polyethylene is named as the base material for the separators, but no references are made to its molecular weight (page 4, lines 1 to 13).

3.3 Claims 1-18 are therefore novel in relation to documents D1 and D2.

4. Inventive step, PCT Article 33(3)

Document D1 is considered to be the closest prior art. The feature which distinguishes claims 1-18 from D1 is the introduction of a special additive into the separator (selection from two lists). The resulting effect is prolonged service life (application, page 2, line 13). The objective technical problem is that of increasing the oxidation stability of the separator. This problem is solved by the introduction of a special additive. Neither D1 nor D2 suggests that the oxidation stability of battery separators can be improved by the claimed compounds used. Consequently, claims 1-18 are novel and inventive.